

**AMENDMENTS TO THE CLAIMS:**

**Please cancel claim 14 without prejudice or disclaimer and amend the claims as follows:**

1. (Currently Amended) A group III-nitride-based compound semiconductor device,  
comprising:

a first p-layer and a second p-layer, the first p-layer and the second p-layer comprising  
an acceptor impurity; and

an intermediate layer provided between the first p-layer and the second p-layer, the  
intermediate layer contacting a surface of the first p-layer and a surface of the second p-layer,  
the intermediate layer comprising a donor impurity,

wherein the intermediate layer contacts an entirety of the surface of the second p-layer  
and an entirety of the surface of the first p-layer and

wherein the intermediate layer comprises a substantially constant hole concentration in  
a thickness direction thereof;

~~wherein the first p-layer is formed on the light emitting layer, the intermediate layer is  
formed above the first p-layer, and the second p-layer is formed above the intermediate layer,  
and~~

~~wherein a band gap decreases from a position proximate to the light emitting layer to a  
position proximate the second p-layer.~~

2. (Currently Amended) The group III-nitride-based compound semiconductor device  
according to claim 1, wherein:

the intermediate layer ~~comprises~~ is doped with the donor impurity in a concentration

distribution of the donor impurity corresponding to a concentration distribution of the acceptor impurity in the thickness direction intermediate layer.

3. (Previously Presented) The group III-nitride-based compound semiconductor device according to claim 1, wherein:

the acceptor impurity comprises magnesium and the donor impurity comprises silicon.

4. (Currently Amended) The group III-nitride-based compound semiconductor device according to claim 3, wherein:

the donor impurity of silicon ~~has~~ is doped into the intermediate layer in a concentration distribution substantially 1/10 that of the acceptor impurity of magnesium in the thickness direction of the intermediate layer.

5. (Currently Amended) The group III-nitride-based compound semiconductor device according to claim 1, wherein:

the intermediate layer comprises a substantially constant hole concentration equal to or less than  $10^{17}/\text{cm}^3$  in the thickness direction.

6. (Original) The group III-nitride-based compound semiconductor device according to claim 1, wherein:

the first p-layer includes a p-cladding layer made of p-type AlGa<sub>N</sub> doped with Mg, and the second p-layer includes a p-contact layer made of p-type Ga<sub>N</sub> doped with Mg.

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7. (Currently Amended) A group III-nitride-based compound semiconductor device, comprising:

- a sapphire substrate;
- an n-contact layer formed on the sapphire substrate;
- an n-cladding layer formed on the n-contact layer;
- a light emitting layer formed on the n-cladding layer;
- a p-cladding layer and a p-contact layer, to each of which an acceptor impurity

is added;

- an intermediate layer provided between the p-cladding layer and the p-contact layer, the intermediate layer contacting a surface of the p-cladding layer and a surface of the p-contact layer;

- a thin film p-electrode disposed on the p-contact layer;
- a thick film p-electrode disposed on the thin film p-electrode; and
- an n-electrode disposed on the n-contact layer,

wherein the intermediate layer contacts an entirety of the surface of the p-contact layer and an entirety of the surface of the p-cladding layer, and

wherein the intermediate layer comprises a substantially constant hole concentration in a thickness direction thereof.

~~wherein the p-cladding layer is formed on the light emitting layer, the intermediate layer is formed above the p-cladding layer, and the p-contact layer is formed above the intermediate layer, and~~

~~wherein a band gap decreases from a position proximate to the light emitting layer to a position proximate the p-contact layer.~~

8. (Original) The group III-nitride-based compound semiconductor device according to claim 7, wherein:

the light emitting layer includes a multiquantum well structure formed on the n-cladding layer by laminating multiple pairs of well layers of undoped InGaN and barrier layers of undoped GaN.

9. (Previously Presented) The group III-nitride-based compound semiconductor device according to claim 7, wherein:

the thin film p-electrode comprises a first layer of cobalt and a second layer of gold;

the thick film p-electrode is formed by laminating a first layer of vanadium, a second layer of gold, and a third layer of aluminum in sequence, on the thin film p-electrode; and

the n-electrode is formed by laminating a first layer of vanadium and a second layer of aluminum on a partly exposed portion of the n-contact layer.

10. (Original) The group III-nitride-based compound semiconductor device according to claim 7, further comprising:

a reflective metal layer of aluminum formed on the lower surface of the sapphire substrate.

11. (Currently Amended) A group III-nitride-based compound semiconductor device, comprising:

a first p-layer and a second p-layer, the first p-layer and the second p-layer comprising

an acceptor impurity; and

a low-conductivity layer provided between the first p-layer and the second p-layer, the low-conductivity layer contacting a surface of the first p-layer and a surface of the second p-layer, the low-conductivity layer comprising a donor impurity in a first concentration and the acceptor impurity in a second concentration,

wherein the low-conductivity layer contacts an entirety of the surface of the second p-layer and an entirety of the surface of the first p-layer, and

wherein the low-conductivity layer comprises a substantially constant hole concentration in a thickness direction thereof.

~~wherein the first p-layer is formed on the light-emitting layer, the low-conductivity layer is formed above the first p-layer, and the second p-layer is formed above the intermediate layer, and~~

~~wherein a band gap decreases from a position proximate to the light-emitting layer to a position proximate the second p-layer.~~

12. (Previously Presented) The group III-nitride-based compound semiconductor device according to claim 11, wherein:

the low-conductivity layer has a thickness of about 100 nm or less.

13. (Currently Amended) The group III-nitride-based compound semiconductor device according to claim 11, wherein:

~~the concentration of the donor impurity is doped in the low-conductivity layer in a thickness direction is~~ in a concentration distribution substantially 1/10 ~~of the concentration~~

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that of the acceptor impurity in the thickness direction of the low-conductivity layer.

14. (Canceled)

15. (Previously Presented) The group III-nitride-based compound semiconductor device according to claim 1, wherein said first p-layer comprises  $\text{Al}_{0.15}\text{Ga}_{0.85}\text{N}$ .

16. (Currently Amended) The group III-nitride-based compound semiconductor device according to claim 1, wherein said intermediate layer ~~has~~ is doped with the donor impurity in a donor impurity concentration distribution of  $2 \times 10^{18}/\text{cm}^3$  to  $3 \times 10^{17}/\text{cm}^3$  in the thickness direction.

17. (Previously Presented) The group III-nitride-based compound semiconductor device according to claim 1, wherein:

said intermediate layer allows current flow at an entire region thereof.

18. (Previously Presented) The group III-nitride-based compound semiconductor device according to claim 7, wherein:

said intermediate layer allows current flow at an entire region thereof.

19. (Previously Presented) The group III-nitride-based compound semiconductor device according to claim 11, wherein:

said low-conductivity layer allows current flow at an entire region thereof.